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## *Euphorbia derickii* (Euphorbiaceae), a New Species from Central Mexico

Victor W. Steinmann

Instituto de Ecología, A.C., Centro Regional del Bajío, A.P. 386, 61600 Pátzcuaro, Michoacán, México

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**ABSTRACT.** *Euphorbia derickii*, a new species in *Euphorbia* subg. *Chamaesyce* (Euphorbiaceae), is described and illustrated. It is endemic to central Mexico and presently known from 11 widely separated collections in the states of Guanajuato, Guerrero, Michoacán, and Morelos. Although similar to *Euphorbia hirta* and *E. lineata* in most features, it can be distinguished from these and all other Mexican species of *Euphorbia* subg. *Chamaesyce* by its seeds, which possess sharp, well-defined, uninterrupted, transverse ribs.

**RESUMEN.** Se describe e ilustra *Euphorbia derickii*, una especie nueva de *Euphorbia* subg. *Chamaesyce* (Euphorbiaceae). La especie nueva es endémica del centro de México y conocida de once colectas de los estados de Guanajuato, Guerrero, Michoacán y Morelos. Es semejante a *Euphorbia hirta* y *E. lineata* pero difiere de ellas y las otras especies mexicanas de *Euphorbia* subg. *Chamaesyce* por tener semillas con costillas transversales notarias, continuas y con el borde agudo.

**Key words:** *Euphorbia*, Euphorbiaceae, Mexico.

Mexico is the center of diversity for *Euphorbia* L. subg. *Chamaesyce* Rafinesque (= *Chamaesyce* Gray), and I estimate that it contains ca. 110 of the nearly 300 species of this subgenus. Its members are well represented throughout the country in almost all types of vegetation from sea level to over 3000 m. During the preparation of the family Euphorbiaceae for the Mexican *Flora del Bajío y de Regiones Adyacentes*, various collections of a distinctive taxon were encountered from both within and outside the boundaries of the Flora. Because these plants do not appear to belong to any previously described species, they are here proposed as new.

***Euphorbia derickii*** V. W. Steinmann, sp. nov.  
TYPE: Mexico. Morelos: mpio. Miacatlán, ejido Coatetelco, 10 km al E de Mazatepec, 14 abr. 1986, Vázquez 45 (holotype, IEB; isotype, ENCB). Figure 1.

Planta annual, erecta vel ascendens, usque 35 cm alta; caules teretes; internodia 1–14 cm longa; folia opposita, petioli 1–4 mm longi, laminae ovatae, oblongae vel obovatae, 0.5–2.9 cm longae, 0.4–1.6 cm latae, apices obtusi, bases cuneatae vel hemicordatae, saepe obliquae, margines serrulati vel crenulati; cyathia in capitulis densis terminalibus; pedunculi 0.3–1.8 mm longi, glabri; involucria infundibuliformia vel campanulata, 1.1–1.6 mm longa, 0.8–1.0 mm diametro; glandulae 4, circulares vel transverse oblongae, 0.1–0.2 mm longae (radialiter), 0.1–0.3 mm latae (tangentialiter), concavae; appendices flabellatae, 0.2–0.9 mm longae, 0.3–0.8 mm latae, margines integri; flores staminati ca. 20–30; ovarium 3-lobatum; styli 3, 0.3 mm longi, bifidi, filiformes vel leviter clavati, ad apices leviter dilatati; capsula 3-lobata, 1.2–1.6 mm longa, 1.3–1.8 mm lata; columella 0.9–1.2 mm longa; semina ovoideo-quadrangulata, 0.9–1.0 mm longa, 0.6–0.7 mm lata, superficies dorsales costis transversis argutis continuis 6–8.

Plants annual, erect or ascending, to 35 cm tall; root slender, sometimes diffusely branched; primary stems single or many arising from the base, little branched below but much branched distally, terete, 0.8–4 mm thick, internodes 1–14 cm long, strigulose or rarely pilose, sometimes glabrate, trichomes 0.2–0.4 mm long, almost straight to slightly recurved, white to light brown or yellow. Leaves opposite, stipules interpetiolar, separate, undivided or lacinate into 3 to 5 segments, subulate to almost filiform, 0.8–2.4 mm long, glabrous to pilose, punctiform glands ca. 0.1 mm diam. sometimes present at the base of the stipules, petioles 1–4 mm long, strigulose, blades ovate to oblong or rarely obovate, 0.5–2.9 cm long, 0.4–1.6 cm wide, sometimes with a small lobe toward the base of one side and/or a red spot in the center, apex obtuse, base cuneate to hemicordate, frequently oblique, with a prominent midvein and 2 to 4 less-distinct lateral veins emerging from the base, glabrate above and sparsely strigulose below, margin irregularly serrulate to crenulate. Cyathia in dense, terminal, leafless capitula, peduncles 0.3–1.8 mm long, glabrous. Involucre funnelliform to campanulate, 1.1–1.6 mm long excluding the glands, 0.8–1.0 mm diam. below the glands, glabrous below, strigulose above, lobes rectangular to triangular, 0.2–0.3 mm long, apex acute to truncate, glands 4, slightly stipitate, cir-



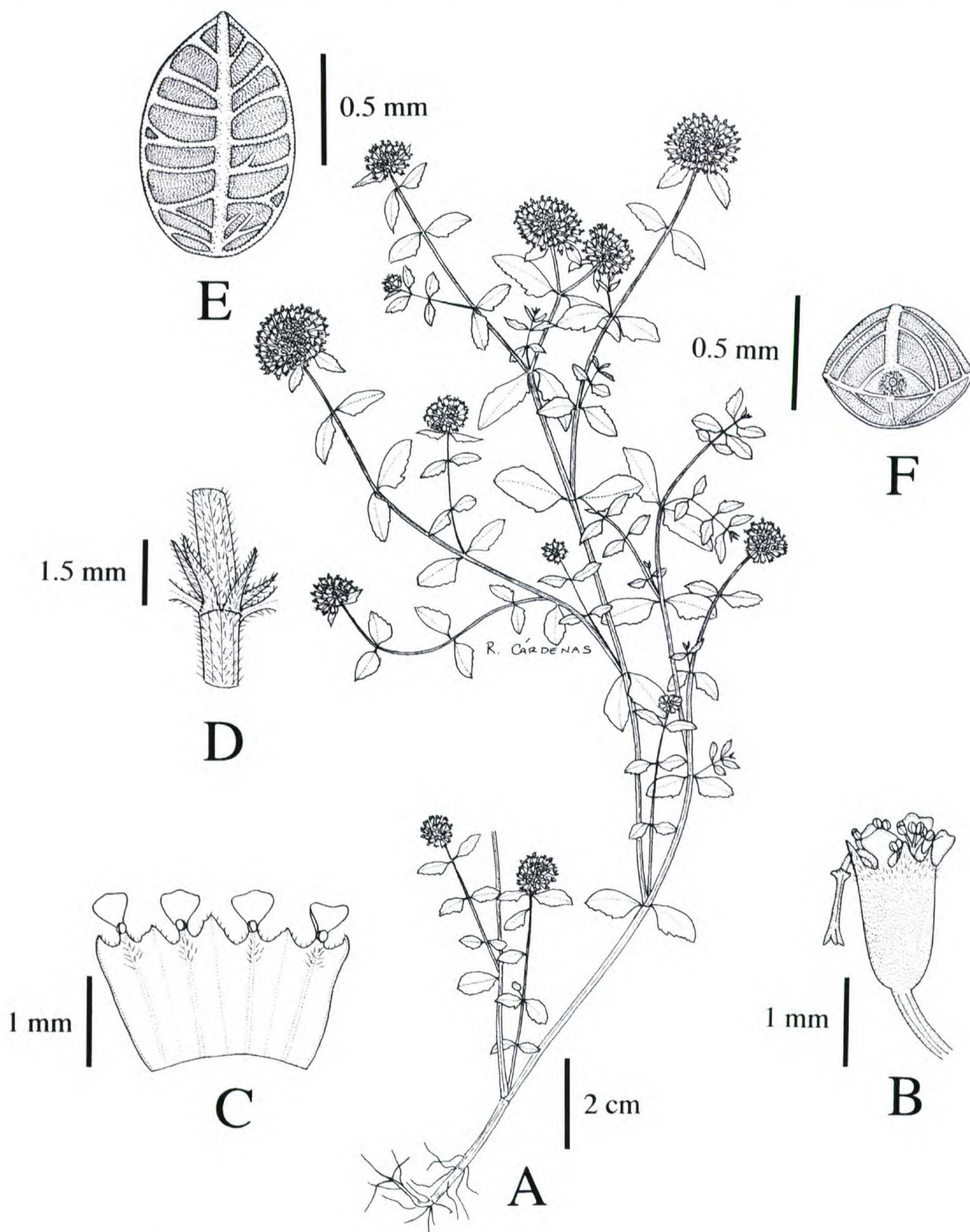


Figure 1. *Euphorbia derickii* V. W. Steinmann. —A. Habit. —B. Cyathium, side view. —C. Involucre, inner view. —D. Stipules. —E. Seed, dorsal view. —F. Seed, bottom view.

cular to transversely oblong, 0.1–0.2 mm long (radially), 0.1–0.3 mm wide (tangentially), concave, appendages flabellate, sometimes asymmetrical with one side prolonged, 0.2–0.9 mm long, 0.3–0.8 mm wide, entire, white and sometimes becoming

purple-pink in age. Staminate flowers  $\pm$  20 to 30. Gynophore glabrous, exerted 0.5–1.1 mm, ovary strigulose, 3-lobed, styles 3, divided to the base, 0.3 mm long, filiform or slightly clavate, subcapitate. Capsules broadly ovate and widest below the



middle, 1.2–1.6 mm long, 1.3–1.8 mm diam., 3-lobed, shortly strigulose, shallowly furrowed between the carpels; columella 0.9–1.2 mm long. Seeds ovoid-quadrangular, 0.9–1.0 mm long, 0.6–0.7 mm wide, orange-brown, subacute to obtuse at the apex, obtuse to truncate at the base, the dorsal facets with 6 to 8 well-defined, sharp, narrow transverse ribs that do not pass through the dorsal keel, these generally uninterrupted but rarely anastomizing.

*Distribution and habitat.* *Euphorbia derickii* is endemic to central Mexico and currently known from 11 widely separated collections in the states of Guanajuato, Guerrero, Michoacán, and Morelos at elevations of 600 to 1750 m. Four collections are reported to have been made in cultivated fields. None of the remaining specimens provide specific information about the surrounding vegetation except one that is reported from an “open riparian area.” However, based on the general vegetation of the localities where it has been encountered, it probably occurs in subtropical scrub and tropical deciduous forest.

*Conservation status.* At four of the known localities, this taxon was reported to be weedy in cultivated fields, and at two others it was described as abundant. Due to its tendency to invade disturbed habitats, it probably is not in danger of extinction at present.

*Phenology.* This species apparently is reproductive throughout the year under favorable conditions; it has been collected with flowers and fruits in July, August, October, January, February, March, and April.

*Etymology.* *Euphorbia derickii* is named in honor of my father, Derick Otis Steinmann (1943–2002), to whom I owe not only my existence but also many invaluable lessons about life.

*Discussion.* As noted by Wheeler (1941) and McVaugh (1961), the most useful distinguishing traits in many groups of *Euphorbia* subg. *Chamaesyce* are those of the capsules, seeds, and pubes-

cence. For *Euphorbia derickii*, the seeds are most characteristic. In other features, this species strongly resembles both *E. hirta* L. and *E. lineata* S. Watson, and all of the collections were previously identified as one of these taxa. However, the sharp, well-defined, uninterrupted, transverse ribs of the seeds are unmistakable and serve to distinguish it from both of these species, whose seeds are rugulose or with subtle, mostly rounded transverse ridges. In fact, the seeds of *E. derickii* are so distinctive that they readily separate it from other North American and Mexican species of this subgenus.

Like most Mexican members of *Euphorbia* subg. *Chamaesyce*, the common name of *Euphorbia derickii* is *Golondrina* (Rodríguez 1313, Torres 414). Another common name is *Verdolaga Cimarrona* (Torres 414).

*Paratypes.* MEXICO. **Guanajuato:** mpio. Yuriria, Yuriria, margenes de la laguna, 3 sep. 1981, *Zizumbo Z-815* (IEB), *Z-816* (IEB). **Guerrero:** mpio. de Coyuca, Coyuca, 25 Jan. 1934, *Hinton et al. 5544* (K); km 12 carretera Chilpancingo, 22 ago. 1974, *Rodríguez 1313* (ENCB, MEXU). **Michoacán:** Coenqueño, Yurécuaro, 20 feb. 1982, *Flores 52* (IBUG). **Morelos:** Alpuyeca, 18 ago. 1949, *Atmar 77* (MEXU); Tlaltizapán, Centro Internacional de Mejoramiento de Maiz y Trigo, 3 Sep. 1978, *Ilitis et al. 831c* (MICH, WIS); Miacatlán, *Miranda 1282* (MEXU); mpio. Coatlán del Río, Coatlán del Río, 27 jul. 1976, *Torres 414* (MEXU); Mazatepec, 2 mar. 1968, *Vázquez 1499* (MEXU).

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